

Remarks

Claims 11-20 were examined and acted upon in the aforesaid Office Action. Claims 11-20 have been rejected. No claims have been canceled and new claim 21 has been added, leaving claims 11-21 for consideration.

Claim 11 stands rejected under 35 USC 102 as anticipated by Shirk '903. Claim 11 is limited such that "intensity of the radiation is measured at plural locations of a vapor capillary established by the radiation, and...shapes of two spaced-apart peak-intensity regions...of the radiation emitted from the vapor capillary, and of a minimum region...that is formed between the two peak-intensity regions, are detected..."

In Shirk, there is shown and described one sensor (26) which obtains measurements from plasma at the weld location (22). A second sensor (33) obtains temperature measurements of a solidified weld puddle (Col. 3, ll. 8-11). This measurement is taken of a "previously completed weld bead" (col. 4, ll. 16-20). See Col. 4, ll. 22-31, "In accordance with the present invention, the weld monitoring system is employed for evaluating light intensity samples taken from the weld plasma and

evaluating the temperature of the re-solidified weld bead during the welding operation."

It thus appears that Shirk fails to show or teach, or even suggest a method including taking two measurements in the vapor capillary. It follows further that no suggestion is found in Shirk relative to measuring radiation at two spaced-apart peak intensity regions of radiation emitted from the vapor capillary and a minimum region between the two peak-intensity regions.

Accordingly, Shirk would appear to neither anticipate nor render obvious the matter of claim 11.

Claim 11 stands further rejected under 35 USC 102 as anticipated by Chou. As noted above, claim 11 is limited to "instantaneous intensity of the radiation is measured at plural locations of a vapor capillary established by the radiation, and wherein two spaced-apart peak-intensity regions...of the radiation emitted from the vapor capillary, and of a minimum region...that is formed between the peak-intensity regions, are detected..."

It appears that in Chou the only value being measured is the spatial distribution of the intensity of light emitted from the plasma, the measured spatial value being compared to given values. In Chou, there appears to be no indication that a

measurement is carried out on two maximal intensities separated from each other and an additional minimum intensity.

It appears that Chou fails to anticipate, or render obvious, the invention defined by claim 11.

Claims 12-20 depend from claim 11 and would appear to be allowable, at least through dependency.

New claim 21 is generally comparable substantively with to claim 11, but presented in more traditional method claim format.

Allowance of claims 11-21 is most respectfully requested.

Examiner noted that a corrective amendment was required to a patent number cited in the specification. The amendment has been entered hereinabove.

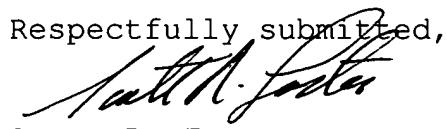
Examiner further noted minor objections to claims 12 and 15. Claim 12 has been amended as suggested. In claim 15, the word "deviate" appears correct, as opposed to "deviates". The claim reads, in part, "operation takes place when the shape of a peak-intensity region...and the shape of the trailing peak region...deviate from predetermined region shapes."

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In the event that any fees may be required in this matter,
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Thank you.

Respectfully submitted,



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